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FOR
SERVICE BULLETINS

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STERILIZER PRODUCTS SERVICE BULLETIN NUMBER: 100

Subject: New Procedure for Adjusting the Pressure / Temperature Potentiometers

Applicable Models:
M9 (S/N Series: CZ, DA, DB, DX, DY, FD, and OM)
M9D (S/N Series FF and FG)
M11 (S/N Series ES, ET, FP, FR, and GB)
M11D (S/N Series GC and GD)

Midmark Engineering has developed a new procedure for adjusting the Pressure / Temperature potentiometers. The new procedure is quicker and more precise than the present procedure is. Perform the new adjustment procedure as follows:

A. Pressure / Temperature Potentiometers Adjustments

EQUIPMENT ALERT
The pressure zero, pressure range, and temperature potentiometers must not be adjusted separately. If one potentiometer needs to be adjusted, then the entire potentiometer adjustment procedure must be performed, and it must be performed in the proper sequence as follows:

(1) Remove right hand side panel.

(2) Open sterilizer door.

DANGER
The following steps require the sterilizer to be plugged in to power while the adjustment is being performed. Do not touch any components except for the adjusting screw of the potentiometer. Failure to comply with these instructions could result in an electrical shock, which could result in severe personal injury or death.

NOTE
After the following step is performed, the display PC board lamps will individually illuminate and then extinguish one at a time in a left to right sequence. When all the lamps have illuminated and extinguished, proceed with step 4.

(3) Press and hold down the LIQUIDS and PACKS buttons simultaneously while connecting the power cord to the sterilizer (See Figure 1). Release the LIQUIDS and PACKS buttons.

NOTE
When each button is pressed, its corresponding lamp will illuminate and stay illuminated. Also, after the following step, the PRESSURE (PSI) display will display the pressure that the control PC board is reading and the TEMP (°F) / TIME (MIN: SECONDS) display will display the temperature that the control PC board is reading. When each button has been pushed, proceed with step 5.

(4) Press and release the UNWRAPPED, POUCHES, LIQUIDS, PACKS, START, STOP, AND ON/STANDBY buttons one at a time and in this order.

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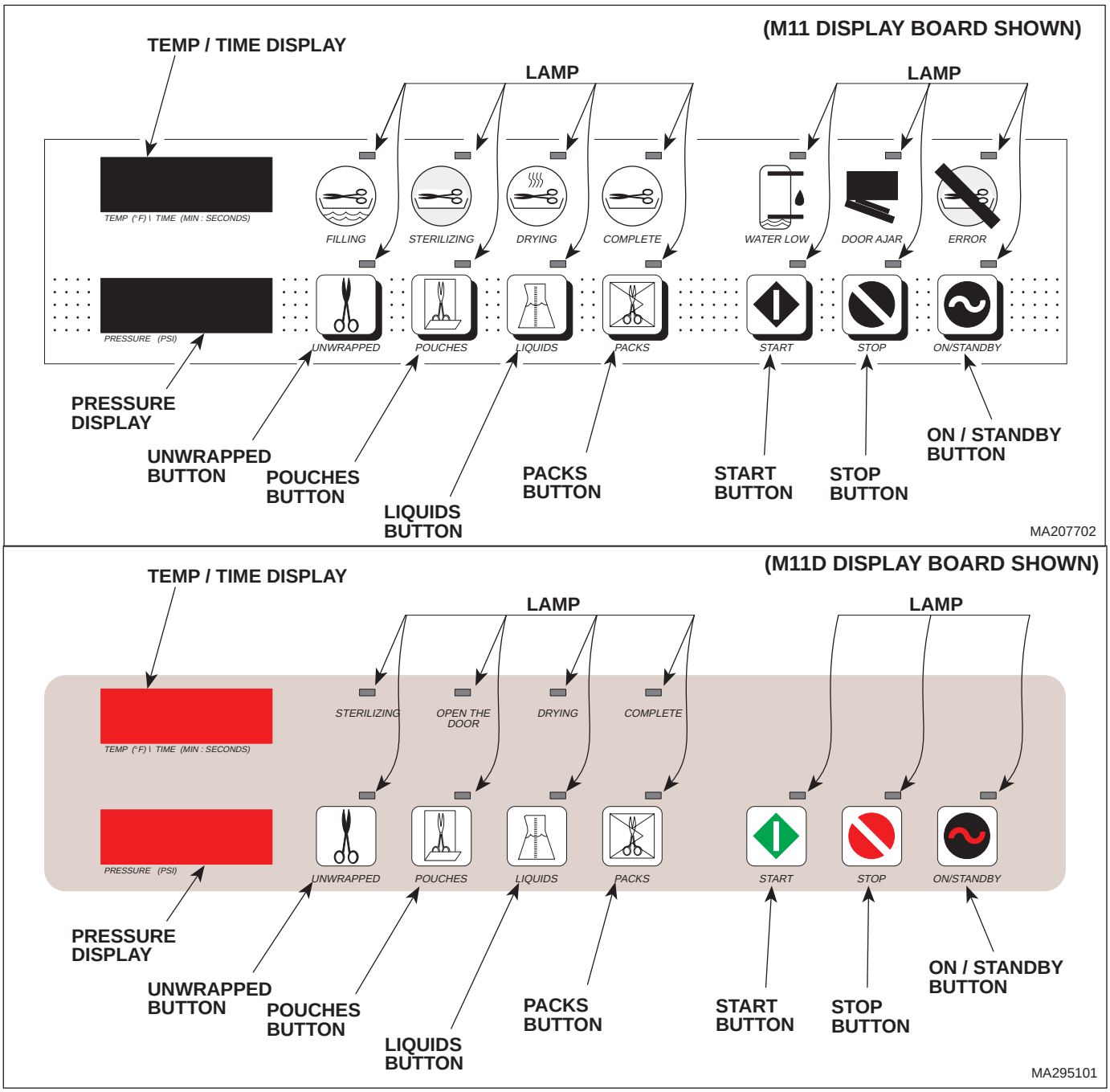

Figure 1. Display PC Board Lamp / Display / Button Check

(5) Turn adjusting screw of pressure zero potentiometer (1, Figure 2) in the counter-clockwise direction until the PRESSURE (PSI) display reads 0.0 psi (0.0 kPa).

(6) Turn adjusting screw of pressure zero potentiometer (1) in the clockwise direction until the PRESSURE (PSI) display reads 0.1 psi (1 kPa).

EQUIPMENT ALERT

The multimeter leads must be connected exactly as shown in the illustration. Connecting a lead to the wrong side of the resistor or wrong pin of the chip will result in an incorrect adjustment.

(7) Set the multimeter to read VDC at least the 5 Volts range. Connect the red lead of a multimeter to Test Point (A) and the black lead of a multimeter to Test Point (B).

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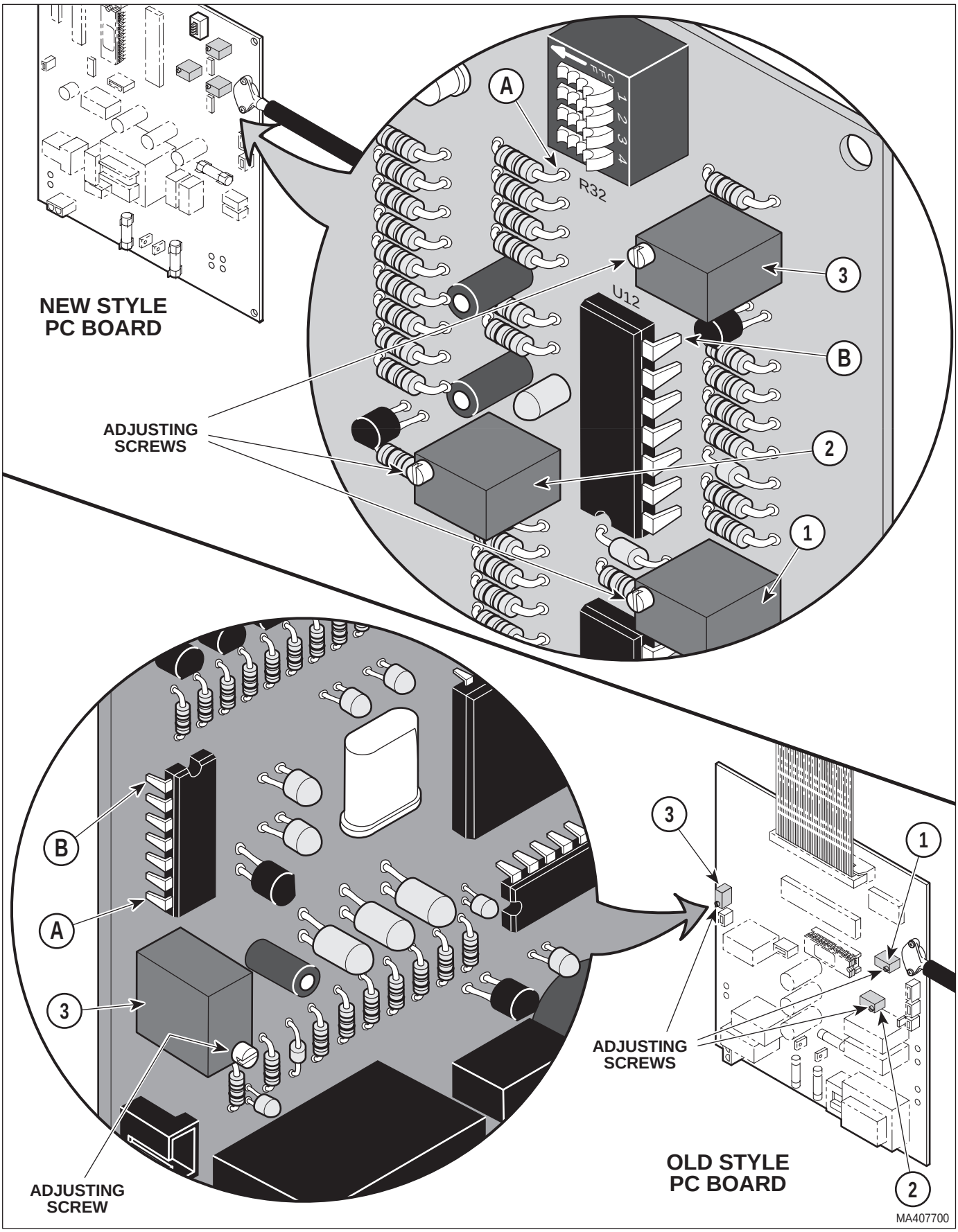

Figure 2. Potentiometer Adjustments

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NOTE
In the following step, if the digital multimeter being used has only three digits, adjust to a reading of 2.54 VDC and then adjust and set to where the reading just changes to 2.55 VDC.

(8) The multimeter should read 2.550 VDC ±0.001 VDC. If multimeter reading is not 2.550 VDC ±0.001 VDC, adjust the adjusting screw of the temperature potentiometer (3) in a clockwise direction to lower the voltage setting or a counter-clockwise direction to raise the voltage setting until the multimeter reading is 2.550 VDC ±0.001 VDC.

(9) Close the sterilizer door.

(10) Connect Pressure Gauge Test Harness to sterilizer (See Figure 3) (Refer to the sterilizer Service and Parts Manual for this special tool).

(11) Press the START button to start a test/calibration cycle and wait until the temperature on the TEMP (°F) / TIME (MIN: SECONDS) display reaches 272 - 273°F (133-134°C) (See Figure 1).

NOTE
Turning the adjusting screw of the pressure range potentiometer in the clockwise direction raises the sterilizer pressure reading while turning the adjusting screw in the counter-clockwise direction lowers the sterilizer pressure reading.

(12) Turn the adjusting screw of the pressure range potentiometer (2, Figure 2) in the clockwise or counter-clockwise direction until the reading on the PRESSURE (PSI) display matches the reading of the Pressure Gauge Test Harness within a tolerance of ±0.5 psi (3.5 kPa).

(13) Recheck the multimeter reading. It should still read 2.550 VDC ±0.001 VDC.

(14) Press the STOP button to end the test/calibration cycle and allow the sterilizer to vent and open its door (See Figure 1).

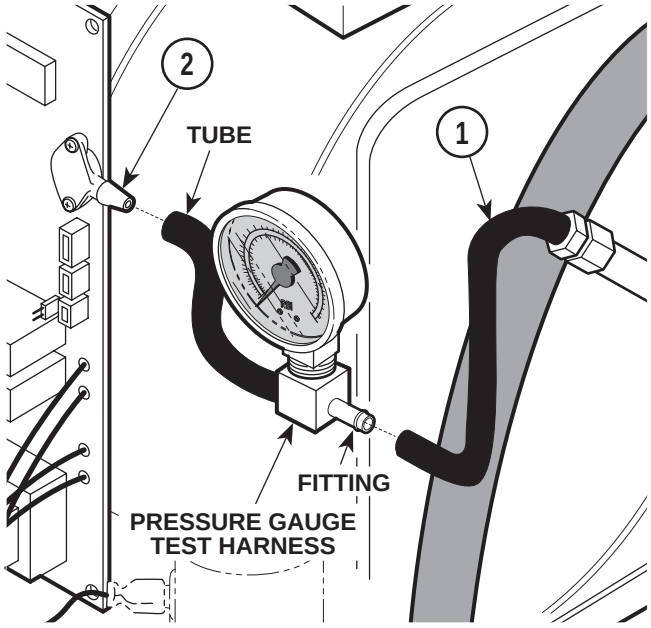
(15) Disconnect the leads of the multimeter from Test Points (A and B, Figure 2).

(16) Disconnect the power cord from the sterilizer and then repeat steps 3 and 4 of this procedure. The reading should read 0.1 psi (1 kPa) with the sterilizer door open. If not, repeat steps 5 and 6 of this procedure.

(17) Disconnect the power cord from sterilizer.

(18) Disconnect Pressure Gauge Test Harness from sterilizer (See Figure 3).

(19) Install right hand side panel.



To connect Pressure Gauge Test Harness to sterilizer:

1. **Disconnect tube (1) from pressure sensor (2).**
2. **Connect tube of Pressure Guage Test Harness to pressure sensor (2).**
3. **Connect tube (1) to fitting of Pressure Guage Test Harness.**

To disconnect Pressure Gauge Test Harness from sterilizer:

1. **Disconnect tube (1) from fitting of Pressure Guage Test Harness.**
2. **Disconnect tube of Pressure Guage Test Harness from pressure sensor (2).**
3. **Connect tube (1) to pressure sensor (2).**

MA2070-01

Figure 3. Connecting / Disconnecting Pressure Gauge Test Harness

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STERILIZER PRODUCTS SERVICE BULLETIN NUMBER: S101

Subject: EPROM Update
Applicable Models: M11

After testing, Midmark Engineering has determined that a software upgrade and the installation of an additional spring will improve the reliability of the door opening sequence at the end of the sterilizing portion of a sterilization cycle.

To install the software upgrade, install the enclosed EPROM chip (1, Figure 1) as follows:

1. Unplug sterilizer power cord from wall outlet.
2. Remove right hand side panel.
3. Note the position of the notch on the EPROM chip; then remove existing EPROM chip (1) from chip holder (2).

CAUTION

Make sure pins of new EPROM chip (1) are not bent while they are being inserted into chip holder (2). Also, take standard precautions when handling EPROM chip to prevent electrostatic damage. Failure to heed caution could result in sterilizer malfunction.

Units with old style PC boards must use an EPROM chip labeled **Midmark M11, VER. 1.10, CS: 105B** while units with new style PC boards must use an EPROM chip labeled **Midmark M11, VER. 1.10, CS: 554D. Failure to install proper EPROM chip will result in sterilizer malfunction.**

4. Align the new EPROM chip (1) so it's notch faces the same direction as did the old EPROM chip; then install EPROM chip onto chip holder.
5. Install right hand side panel.

Install the additional spring (2) as follows:

1. Open sterilizer door.
2. Remove screw (1, Figure 2) and existing spring (2) from door panel (3).
3. Install existing spring (2) and new springs (2) on door panel (3) and secure with screw (1).

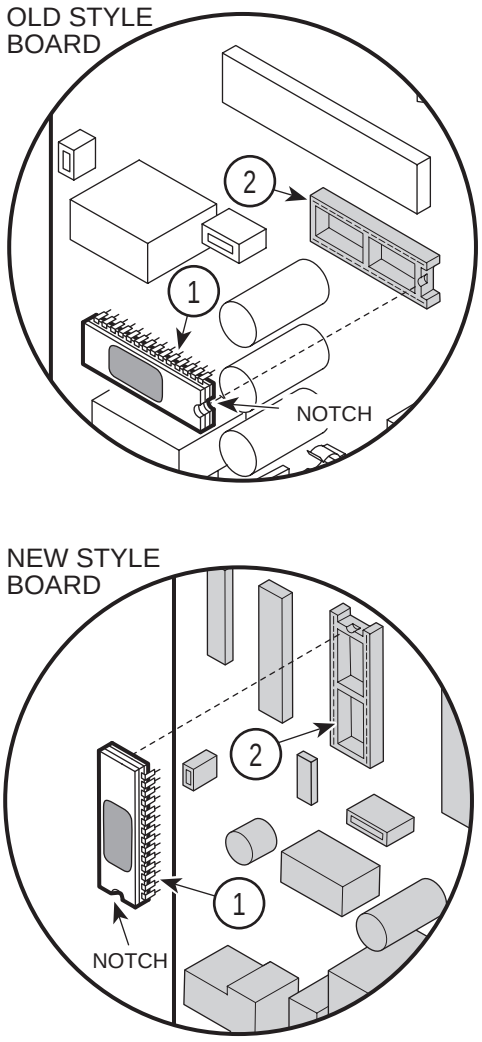

Figure 1. New EPROM Chip Installation

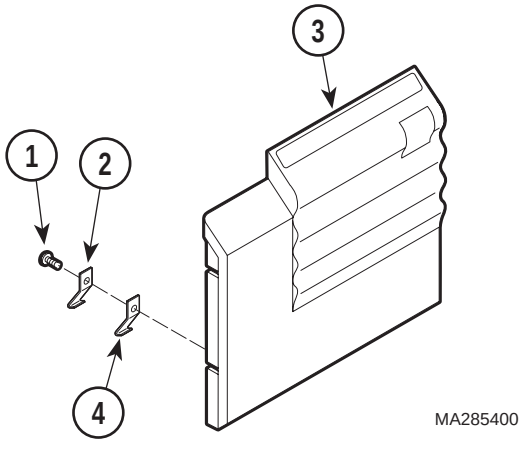

Figure 2. Additional Spring Installation

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STERILIZER PRODUCTS SERVICE BULLETIN NUMBER: S102

Subject: EPROM REPLACEMENT
Applicable Models: M9-007

To replace the software, install the enclosed EPROM chip (1) as follows:

1. Unplug the sterilizer power cord from the wall outlet.

2. Remove the left hand side panel.

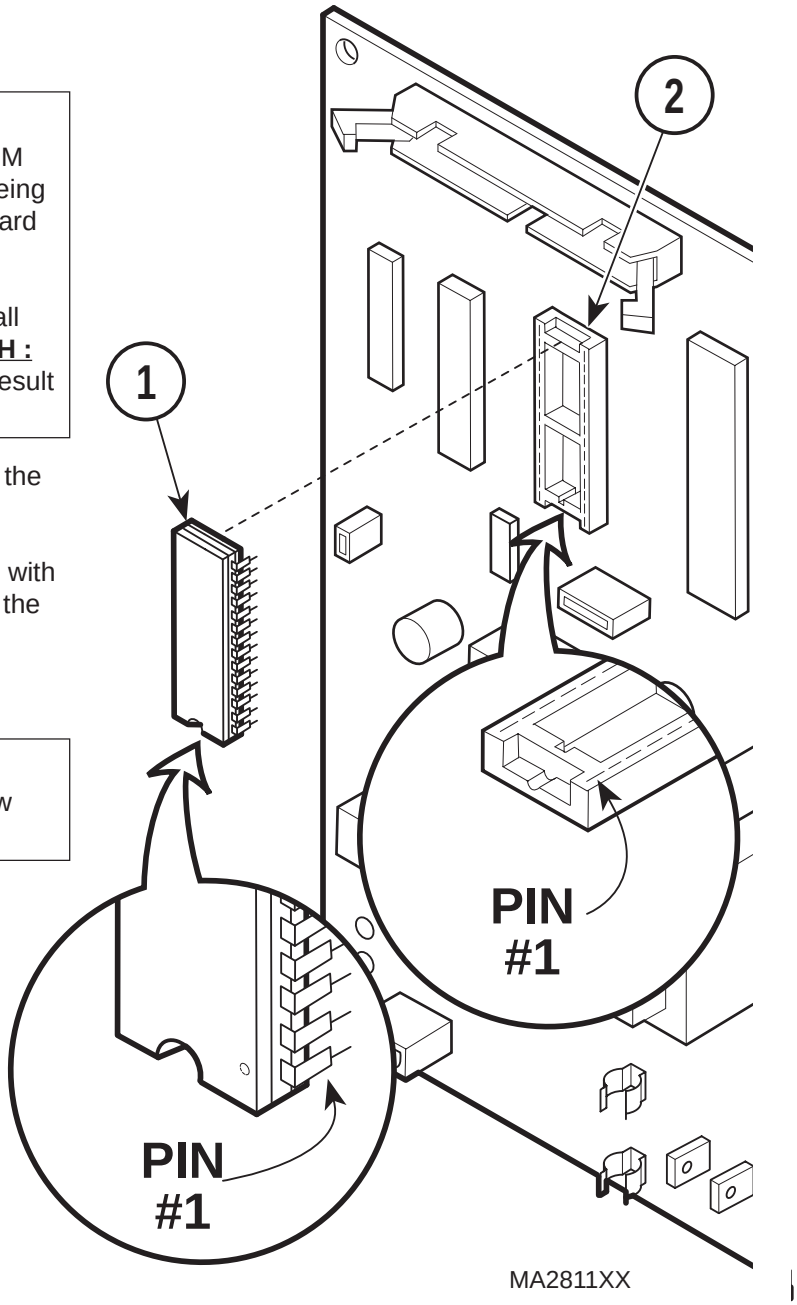
CAUTION
Make sure the pins of the new EPROM chip (1) are not bent while they are being inserted into the chip holder (2). Also, take standard precautions when handling the EPROM chip to prevent electrostatic damage. Failure to heed caution could result in sterilizer malfunction. Install EPROM chip labeled **003-0742-04 VER : 1.00 CH : 369E**. Failure to install proper EPROM chip will result in sterilizer malfunction.

3. Remove the existing EPROM chip (1) from the chip holder (2).

4. Align the notch of the new EPROM chip (1) with the notch of the chip holder (2); then install the EPROM chip onto the chip holder.

5. Install the left hand side panel.

NOTE
In the future, should it be necessary to order a new P.C. Board, order part number **015-1048-09**.



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STERILIZER PRODUCTS SERVICE BULLETIN NUMBER: S103

Subject: Long Term Storage Preparation for the M9 and M11 Sterilizers

Applicable Models: All M9 & M11

Prepare the sterilizer for long term storage as follows:

1. Perform monthly system flush with Speed Clean Sterilizer Cleaner, in the Installation and Operation Manual. **DO NOT** refill reservoir.
2. Remove the sterilizer right side panel to expose the main circuit board.
3. Close the chamber door.
4. Remove the top inspection cover and the condensing tank lid.
5. Place the sterilizer in the 'Test Mode', (Perform the Display PC Board Lamp / Display / Button Check, from the Service and Parts Manual, **DO NOT** unplug the sterilizer.)
6. Press and release the ON/STANDBY button. (This will energize the fill and vent solenoids.)
7. Disconnect the pressure tube from the pressure sensor on the main circuit board.
8. Blow compressed air through the pressure tube to clear any residual water out of the sterilizer plumbing.
9. Dry any residual water out of the reservoir/ condensing tank and chamber.
10. Replace the pressure tube and reinstall the right side panel.
11. Replace the top inspection cover, but leave the lid off of the condensing tank.
12. Open the sterilizer door and unplug the sterilizer. (An alternative to leaving the door open would be to remove the door gaskets, lay them in one of the trays, then the door can be closed and air will still be able to circulate through the chamber.
13. Some desiccant may be placed in the sterilizer to absorb any residual moisture.

To start up the sterilizer again, replace the condensing tank lid, (if removed, replace the gaskets) fill the reservoir with distilled or demineralized water and restore power.

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STERILIZER PRODUCTS SERVICE BULLETIN NUMBER: S104

Subject: EPROM REPLACEMENT
Applicable Models: M9-010

To replace the software, install the enclosed EPROM chip (1) as follows:

1. Unplug the sterilizer power cord from the wall outlet.

2. Remove the left hand side panel.

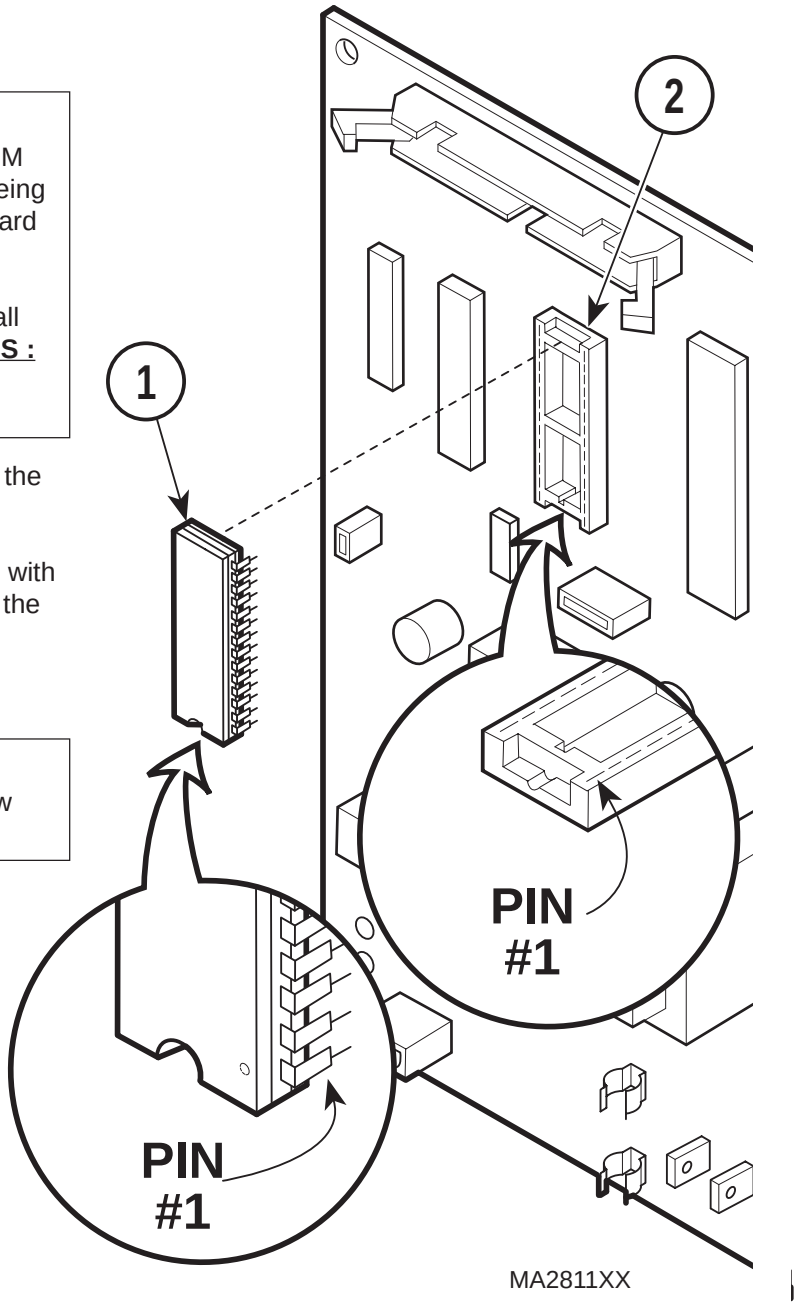
CAUTION
Make sure the pins of the new EPROM chip (1) are not bent while they are being inserted into the chip holder (2). Also, take standard precautions when handling the EPROM chip to prevent electrostatic damage. Failure to heed caution could result in sterilizer malfunction. Install EPROM chip labeled **003-0742-00 VER : 5.10 CS : 39C1**. Failure to install proper EPROM chip will result in sterilizer malfunction.

3. Remove the existing EPROM chip (1) from the chip holder (2).

4. Align the notch of the new EPROM chip (1) with the notch of the chip holder (2); then install the EPROM chip onto the chip holder.

5. Install the left hand side panel.

NOTE
In the future, should it be necessary to order a new P.C. Board, order part number **015-1179-01**.



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STERILIZER PRODUCTS SERVICE BULLETIN NUMBER: S105

Subject: EPROM REPLACEMENT
Applicable Models: M9A-001

To replace the software, install the enclosed EPROM chip (1) as follows:

1. Unplug the sterilizer power cord from the wall outlet.

2. Remove the left hand side panel.

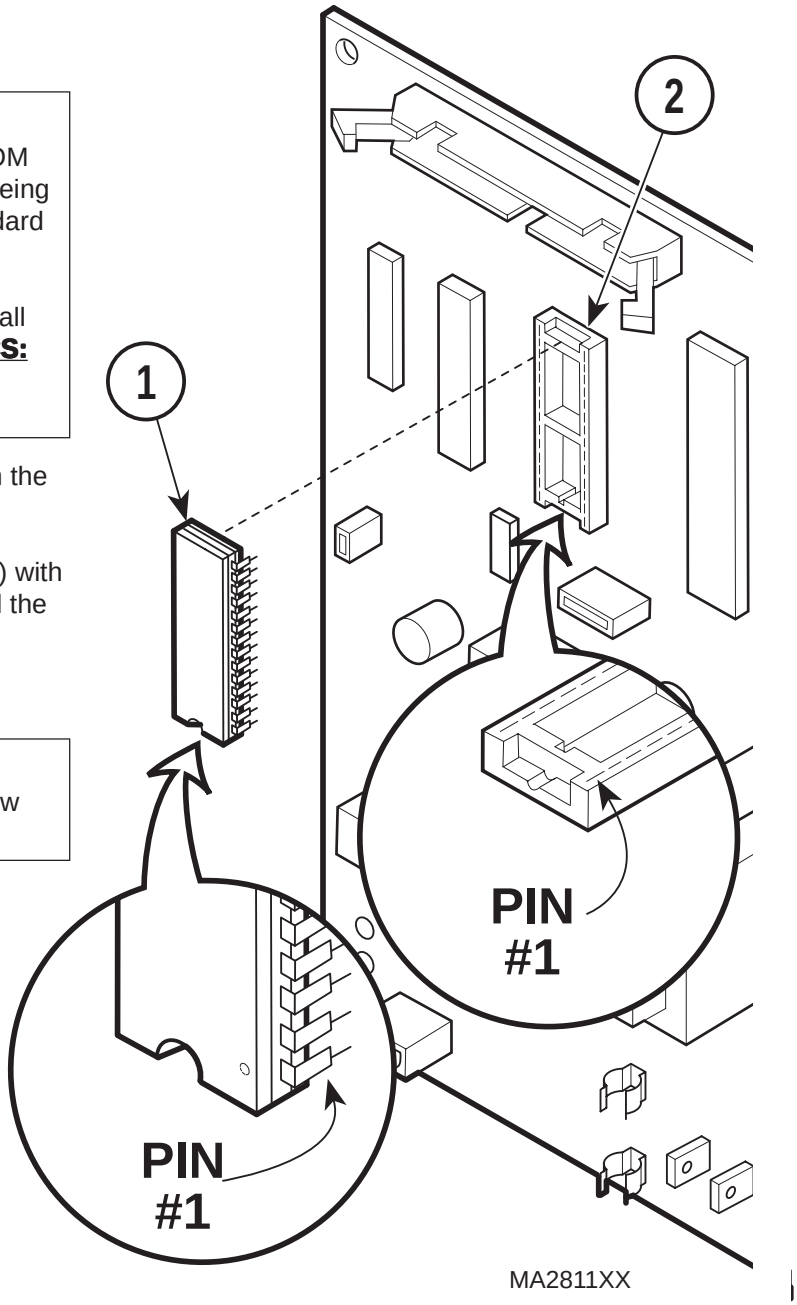
CAUTION
Make sure the pins of the new EPROM chip (1) are not bent while they are being inserted into the chip holder (2). Also, take standard precautions when handling the EPROM chip to prevent electrostatic damage. Failure to heed caution could result in sterilizer malfunction. Install EPROM chip labeled **003-0742-06 VER : 1.04 CS: E247**. Failure to install proper EPROM chip will result in sterilizer malfunction.

3. Remove the existing EPROM chip (1) from the chip holder (2).

4. Align the notch of the new EPROM chip (1) with the notch of the chip holder (2); then install the EPROM chip onto the chip holder.

5. Install the left hand side panel.

NOTE
In the future, should it be necessary to order a new P.C. Board, order part number **015-1179-11**.



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